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To <innovationmetrics@doc.gov>

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bcc

Subject Measuring Innovation Recommendation

Attn: Elizabeth "E.R".Anderson

Hi Elizabeth,

My name is Vasile Buciuman-Coman from XLCSOFT, Boston and I propose a simple way to measure a product innovation called the **Product Innovation Scorecard**:

### **Definition:**

It is the **Ratio** between the **Total Revenue from the Sales of all Products and all Dependent Products\*** and the **R&D Cost** for that product.

\*they are all products currently **In-Use** together with all the other products bought by customers that are also **In-Use** and are depending on the original product for their proper functioning

### **Notes of this definition:**

1. **Innovation Scorecard can be measured with relatively high precision**--it is relatively easy to calculate the total revenue from product sales and its R&D cost. It is also relatively easy to determine the products that are directly dependent on their functioning of the initial product
2. **Its value is greater than one**--for instance, a car or a microprocessor has some of the highest innovation scorecards, running in thousands. The ratio between the cost to research and develop the microprocessor can be measured in billion dollars, while revenues can reach trillions of dollars.
3. **Its value can be measured always regardless of its historical period when the product was introduced**--based on this, it is possible that the product with the highest innovation scorecard is the wheel, as it is a core component of almost all the products in use today
4. **Innovation scorecard is relatively constant**--this is because the ratio between R&D spending and sales is relatively a constant for most of the businesses
5. **Innovation scorecard can be aggregated easy to be extended to the overall business or even industries**--in this case the business innovation scorecard is the sum of all products innovation scorecards
6. **Innovation scorecard measurement is relative to the product value in-use at the customer, which is somewhat independent of the business**--it is important that any measurement for the innovation is independent of the business operations and it should relate the idea directly to the overall value for consumers. For instance, iPod would receive a high innovation scorecard because an entire industry is built around add-ons.
7. **Innovation scorecard is directly dependent on the knowledge**--this is reflected by the R&D costs instead of internal manufacturing cost.

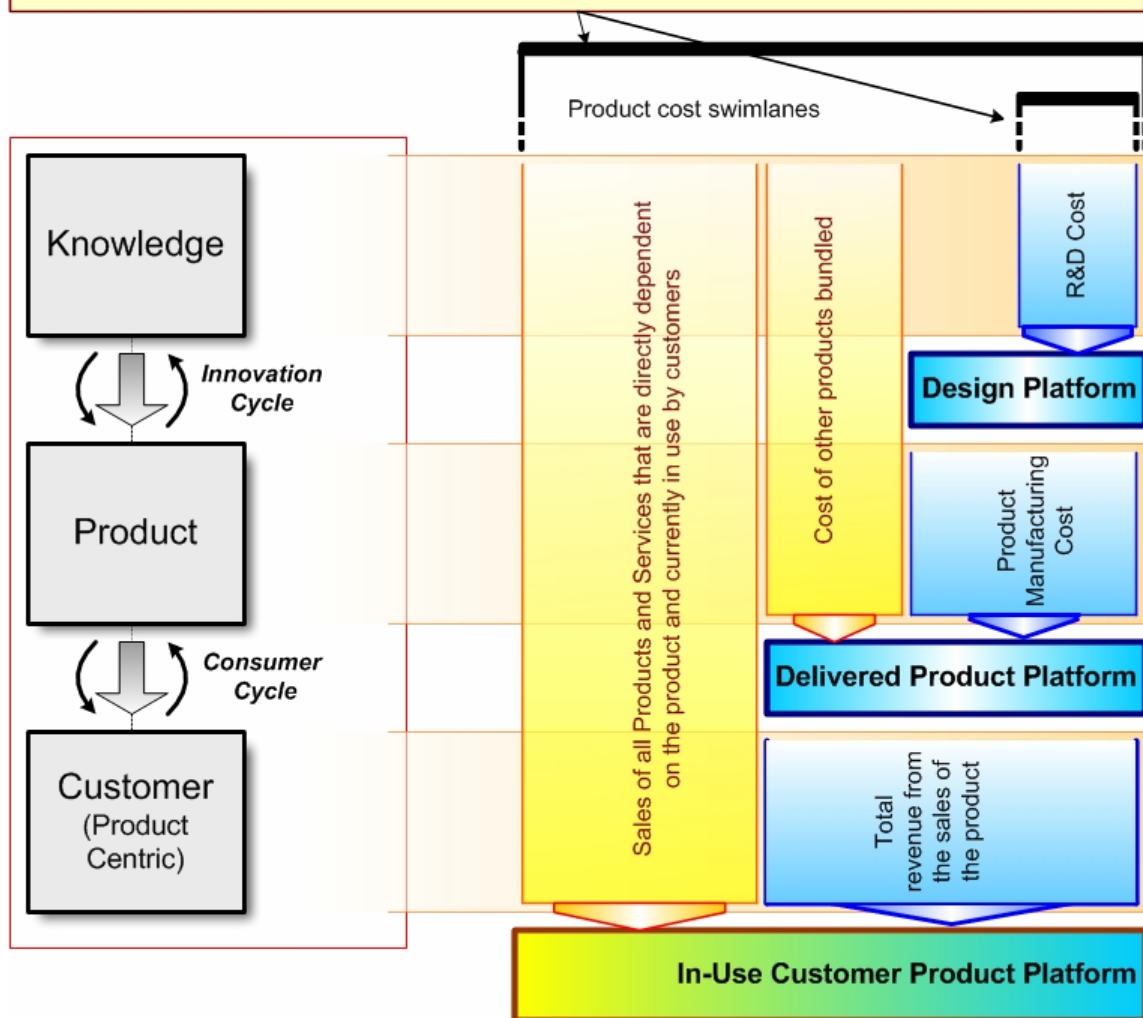
I am also attaching a diagram that describes the innovation scorecard as the aggregation of two cycles, the innovation (internal) cycle and the consumer cycle. The reason why the innovation cycle alone can not

be used to describe the innovation is because it is dependent also on how other vendors may use your product as a baseline for their products. For instance, one of the highest product innovation scorecard can be assigned to an operating system. Microsoft sells Windows, but many other software developers are depending on Windows to sell their products.

Innovation can be measured only for individual products. A proposed way to measure it is through the **Innovation Scorecard**:

**Definition:**

It is the **Ratio** between the **Total Revenue from Sales** for the **In-Use** product and its dependency platform (to the product revenue from sales add all those directly dependent on them and bought by customers) and the **R&D Cost** for that product. Normally is greater than one.



Best Regards,

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